Mia Mirkovic

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Education

University of California, Berkeley — Berkeley, CA

Bachelor of Science in Electrical Engineering and Computer Science, Minor in Mathematics — *Aug. 2016 – Aug. 2020*

Experience

Undergraduate Research Assistant — May 2020 – Present

Berkeley Sensor and Actuator Center

- Developing a constant fraction discriminator chip as a joint project between Pister Lab and Space Sciences Lab.

Undergraduate Student Instructor — January 2018 – August 2020

University of California, Berkeley | EECS 16B

Head Lab TA — *January 2020 – August 2020*

- Transitioned hardware lab to remote instruction; Won an Outstanding GSI award; Led a team of 15 lab TAs and 25 lab assistants to hold lab sections for 900 students, plus Lab TA responsibilities below.

Lab TA — *January 2018 – December 2019*

- Wrote a set of lab notes which together comprise the lab manual/reader for the course; taught weekly 3-hour lab sections; contributed to lab, homework, and exam content; graded exams.

Undergraduate Research Assistant — June 2017 – August 2018

University of California, Berkeley | Arkin Lab

- Designed light system for and helped develop an open-source, 3D-printable chamber for space synthetic biology experiments.
- Developed in-situ resource utilization models for Martian life support, power, and manufacturing systems.
- Developed software to conduct Martian climate simulations with the goal of optimizing bandgap and location for solar cells and/or bioreactors.

Journal Publications

A. Abel, A.J. Berliner, **M. Mirkovic**, W.Collins, A.P. Arkin, D. Clark. **Photovoltaic and Photoelectrochemical Production Capacity can Support Human Life on Mars.** *(In preparation for Science, expected submission December 2020).*

A.J. Berliner, J.M. Hilzinger, A.J. Abel, G. Makrygiorgos, N. Averesch, A. Benvenuti, D. Caddell, S. Cestellos-Blanco, A. Doloman, S. Friedline, W. Gu, S. Sen Gupta, A. Hill, P. Kusuma, I. Lipsky, M. McNulty, **M. Mirkovic**, J. Meraz, V. Pane, K. Sander, F. Shi, J. Skerker, A. Styer, K. Valgardson, K. Wetmore, S. Woo, Y. Xiong, K. Yates, C. Zhang, B. Bugbee, D. Coleman-Derr, S. Nandi, R. Waymouth, P. Yang, C.S. Criddle, K.A. McDonald, A.A. Menezes, L.C. Seefeldt, A. Mesbah, D.S. Clark, A.P. Arkin. **Towards a Biomanufactory on Mars**. *(In preparation for Nature Communications, expected submission December 2020.)*

A.J. Berliner, I. Lipsky, **M. Mirkovic**, M.J. Fogg, A.P. Arkin, W. Collins, C.P. McKay. **Martian Terraforming: Methods, Modeling, and Moving Forward.** *(In preparation for Nature Astronomy, Expected submission February 2021)*

Poster Presentations

M. Mirkovic, L. Lee, K. S. J. Pister. **Time-of-Flight Hardware for the Solar Probe Analyzer for Ions (SPAN-ION)**. Presented to the EECS Industrial Advisory Board, Berkeley, CA. 2020.

M. Mirkovic, A.J. Berliner, C.P. McKay, A. P. Arkin. **Crucible: A System for Space Synthetic Biology Experiments.** NASA Ames Research Space Technology Showcase, Mountain View, CA. 2017.

A.J. Berliner, G. Makrygiorgos, **M. Mirkovic**, A.A. Menezes, A. Mesbah, A.P. Arkin. **Towards Design of a Biomanufacturing-Driven Reference Mission Architecture for Long-Term Human Mars Exploration.** 9th International Conference on Mars, Pasadena, CA. 2019.

A.J. Abel, A.J. Berliner, **M. Mirkovic**, W.D. Collins, A.P. Arkin, D.S. Clark. **Production capacity of solar cells on the Martian surface.** 9th International Conference on Mars, Pasadena, CA. 2019.

A.J. Berliner, G. Makrygiorgos, **M. Mirkovic**, A.A. Menezes, A. Mesbah, A.P. Arkin. **owards Design of a Biomanufacturing-Driven Reference Mission Architecture for Long-Term Human Mars Exploration.** 49th International Conference on Environmental Systems, Boston, MA. 2019.

A.J. Abel, A.J. Berliner, **M. Mirkovic**, W.D. Collins, A.P. Arkin, D.S. Clark. **Production capacity of solar cells on the Martian surface.** 49th International Conference on Environmental Systems, Boston, MA. 2019.

Grants

M. Mirkovic, A.J. Berliner, C.P. McKay. **Towards Martian Terraforming via Scientific Community Building and Planetary Model Democratization.** NASA Ames Research Innovation Award (ARIA) Grant. 2018.

Miscellaneous Reports

A.J. Berliner K. Wetmore, **M. Mirkovic**, A. Starr, A.A. Menezes, A.P. Arkin. **A Synthetic Biology Architecture to Detoxify and Enrich Mars Soil for Agriculture.** NASA Innovative Advanced Concepts (NIAC) Final Report. 2019.